



COMUNE DI VERGIATE

Department of Environment and Culture

Two years after the inauguration of the Bamboo Pavillion at the Bosco di Capra ("the Wood of the Goat"), and three since the starting date of the project that we have now completed with non-profit organization Emissionizero, we believe the time has come to assess our experience and give our testimony of the gratification for the important objectives achieved, as well as the many obstacles along the way, which speak to the determination of Vergiate's community and administration to promote a culture of sustainable development through the pursuance of concrete projects.*

Building with Bamboo at the Bosco di Capra

Why this project in Vergiate

In 1998 the Town Council of Vergiate initiated in the town's section called Cimbri an experimental housing project in the technique of "autocostruzione" ("self-building", or building by the home-owner).

In essence, taking advantage of a Town Council initiative, and to its subsequent commitment to support it through the realization phase, some citizens that could not otherwise afford the cost of owning a home at the current real-estate market price levels, took the initiative to build their own homes using innovative building techniques. Not a small undertaking, taking three years of hard work, but one that made possible the creation of quality homes, with an overall cost savings in excess of 50% of its final market value.

(See the attachment 'The possible home, 1998' - 'Self-Building: the state of the art, Bologna, July 2003')

In 2002, consistently with its political and administrative goals, the Town Council of Vergiate decided to adhere to a "*Learning by doing*" laboratory project promoted by Emissionizero, in a collaborative effort with various Italian and European University Institutes. The project included seminars for students and professionals alike, in the field of architectural engineering, on the practical use of innovative construction techniques, on one hand promoting awareness of environment-friendly building materials, and on the other promoting political, economic and cultural action that, while ensuring the economical sustainability of the final product, has as its ultimate objective the preservation of the diversity of local cultures and the sustainability of global development. In other words, the project was aiming to promote the awareness of the no longer procrastinable necessity to not waste the natural resources that the world eco-systems still possess.

Why the Wood of the Goat ("Bosco di Capra")

In May 2002, Emissionizero proposed to the Town Council of Vergiate to adhere to the project "Bamboo Building", promoting bamboo as a sustainable building material.

The Town Council expressed interest in the initiative. It saw the proposal as especially suited for its territory, where the *Bosco di Capra* (the Wood of the Goats), an area traditionally dedicated to leisure and country summer kermesses, was the ideal location for the development of several construction and research building modules. It also saw the opportunity to give the project high visibility through the realization of a community structure that would be the first *permanent* bamboo building for public use in Europe. Finally, the opportunity was seen to improve the area's functionality, with respect to such issues as rain protection, noise emission reduction, and general

public usage, with a lower financial commitment than would be required with the use of conventional building materials (note that the area covers an overall surface of 500 m²).

(*while the literal translation of the local slang term 'busc di cavar' would be the "Wood of the Goats", in the plural, common usage employs the singular.)

Cronology of the project

- May 2002: the non-profit organization *Emissionizero* invites the Town Council of Vergiate to adhere to the *learning-by-doing* project "*Costruire in bambù – Building with Bamboe*" including a September seminar, led by Colombian architect-instructor Simon Velez, one of the world's most renowned experts in the field of bamboo architecture.
- Following preliminary discussions with the Town Council, *Emissionizero* proposes two alternative options: the first is limited to a single module of approximately 120 m² of surface area, to be realized by September 2002; the second option provides for several modules to be built over a period of nine months, covering the entire area of approximately 500 m².
- The Town Council of Vergiate chooses the second option (realization of multiple modules) and agrees to the signing of a contract with the non-profit organization with duration extended beyond the month of September 2002.
- In both of the options proposed by *Emissionizero*, the Town of Vergiate, owner of the territory where the structure is to be built, and also future owner of the buildings themselves after their completion, commits to provide technical support in the development of the procedural and authorizational process, as well as operational support for the setting up of the construction site and the organization of seminars, to be attended, among others, by two municipal employees that will personally assist with the development of the project (Mr. Carlo Iervolino, of the town's Environmental Administration Office, and Ms. Gabriella Seganfreddo of the Technical Administration Office). On top of that, the Town Council of Vergiate commits to cover part of the financial cost of the project.
- June 24th, 2002: by Municipal Decree n° 54 the Town Council adheres to the project, choosing the second option proposed.
- July 17th, 2002: by Municipal Decree n° 32 the Town Council approves the draft agreement with *Emissionizero*. On the same occasion the President of the non-profit organization, Mrs. Valeria Chioetto, presents the educational-construction project, showing a model of the modular structure, and the preliminary drawings created by Neri Braulin based on the recommendations of Arch. Simon Velez, to whom the land mappings provided by the Town Council have previously been sent by courier for review by *Emissionizero*.
- July 24th, 2002: *Emissionizero's* president Valeria Chioetto and the head of the Town's Technical Administration Office, Mr. Graziano Magni, sign the agreement committing the Town Council to a first disbursement of € 25,000 in favor of *Emissionizero*, to be effected no later than 8/15/2002, for the purchase of the bamboo required for the building of the whole structure (bamboo type *Guadua Angustifolia*, supplied by a Colombian producer directly chosen by Arch. Velez).
- August 2002: the Town Council of Vergiate starts the procedural process for the obtainment of the necessary authorizations: on 8/19/2002 Authorization n.1/2002, with reference to decree n. 19 LR. 22/12/89 n.80 for the tilling of terrain and Authorization n. 108/2002 are issued; on 8/20/2002, by Decree n.70 the Town Council approves the final project, authored and signed by Arch. Neri Braulin, a certified professional architect qualified for the execution of projects on the Italian territory. The Town Council orders the dismantling of the existing structures.

During the first ten days of August, Emissionizero warns of the difficulties related to the obtainment of the Schengen Visa abruptly requested without warning by Velez, who could not realistically produce the required documentation in due time for the necessary procedural red-tape to take place. Considering the strict deadlines and the notoriety of the individual, Emissionizero asks the Vergiate Town Council to intervene so that Velez may be granted a suitable Visa. Many applications are submitted at different hierarchical levels to the Foreign Affairs Department in Rome and to the Italian Embassy in Bogota, among which an Aug. 19th solicitation authored by the Vergiate Town Council itself and addressed to the Deputy Secretary of the Foreign Affairs Dept. in Rome, and faxed to the latter on Aug. 20th, 2002.

Following these requests, both the Foreign Affairs Office and the Embassy in Bogota confirm the issue of the only visa technically obtainable in the short timeframe, with a validity of a month and immediate effectiveness, to make Velez' trip possible, with the plan to obtain a Schengen Visa for him with a validity of a year upon his return to Colombia. Inexplicably, Simon Velez does not accept the Visa, on the grounds of its type being different from what he had requested. Many attempts were then made via phone by both Emissionizero and the Secretary Miranda Baratelli – Town Council of Vergiate, to understand the reasons of the refusal and convince Velez to reconsider, but unfortunately to no avail.

While disappointed and concerned by Velez' defection, but by now strongly convinced of the project's value, the Town Council of Vergiate decides, in agreement with Emissionizero, to give a high priority to the project's execution.

- September 9, 2002: start of the lab operations for the realization of the first module, with the consultant expert service of assistants/trainers identified and proposed by *Emissionizero* as alternatives to Arch. Velez, selected among experts that had previously attended training courses led by Velez himself, or worked with him. The supervision of the works and the safety plan are the responsibility of architects N. Braulin and A. Rogora, respectively. The necessity arises to modify the project, to facilitate the realization of the separate modules as well as to improve their functionality.
- September 13, 2002: a change in the project's scope is requested, extending it to cover three modules of which the central one is to be elevated by one meter over the others. All the necessary approvals are obtained through Town Council Decree n. 82 of 9/17/2002 and the new Authorization n. 131/2002 issued on 11/4/2002.
- November 8th, 2002: *Emissionizero* delivers the first module of approximately 120 m².
- November 2002 – March 2003: *Emissionizero* proceeds to the realization of the East module, following a request by the Town Council to expedite the finalization of the works on said module no later than April 2003, so as to allow the companies entrusted by the Town Council with the installation of services and utility systems to operate, with the purpose of facilitating as much as possible the on-site interaction between said companies and *Emissionizero*. With this objective, the Town Council declares its willingness to moving up some of the payment instalments outlined in the agreement.
- February 3rd, 2003: by Decree n°12 the Town Council deliberates to facilitate the starting of accessory operations, at its own charge, to equip the area for the public function it is designed for (flooring, electrical utility, bathrooms, modelling of external areas with accesses, fencing, technological networks, etc.). The works will be fully completed in time for the new structures to be ready to host the traditional summer season events and popular kermesses.
- June 2003: as a result of technical issues the roof's tiling is changed to canadian tiles as opposed to plain roofing tiles, after the issue of Authorization n. 65/2203 on June 11th, 2003.
- July 5th, 2003: after carrying out several load tests directly on the structure and other lab tests on the materials, *Emissionizero* submits the documentation on phase one of the test procedure ("Static Load Analysis Report" authored by Arch. Giuliano Curti - Melegnano, Milan) to be followed later, in collaboration with the *Studio De Miranda & Associati* of Milan and the Research and Test *Instituto M. Masini srl* of Rho, Milan, up

to the final issue of the static load suitability certification required by the agreement. Coincidentally, thanks to a considerably sized tornado that strikes Vergiate and surrounding villages, not sparing the bamboo pavilion under construction, the structure is exposed to its first, violent field test, that leaves it perfectly unscathed.

- July 6th, 2003: inauguration of the new pavilion.

Since its inauguration, the bamboo structure at the Bosco di Capra, besides hosting many of Vergiate's summer events and other cultural and social activities (with an estimated yearly attendance of 30,000 people), continues to be an attraction for many visitors from the most diverse geographical locations and an object of study for the international scientific community, thanks to the uninterrupted promotion of involvement, awareness and research done by Emissionizero, who in March 2004 presented the Vergiate Bamboo Structure at the VII Bamboo World Congress in New Delhi .



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